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A new species of *Estheria* Robineau-Desvoidy (Diptera: Tachinidae) from the Iberian Peninsula

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Abstract

A new tachinid species (Diptera: Tachinidae) from the Iberian Peninsula, *Estheria iberica* **n. sp.**, is described.
Keywords: Tachinidae, *Estheria*, Iberian Peninsula.

Zusammenfassung

Estheria iberica **n. sp.**, eine neue Raupenfliege (Diptera: Tachinidae) von der Iberischen Halbinsel, wird beschrieben.

1 Introduction

The species which is described below has been known to be a distinct species since at least about 1970. Mesnil (in litteris) proposed the name "*Estheria nigella*" for it, and Herting used this name subsequently in one of his publications (Herting 1978: 5). "*Estheria nigella*" is a nomen nudum, however, because neither Mesnil nor Herting ever had a description of it published, so it is necessary to do this now, to give the species a valid name. The new species is referred to as *Estheria* sp. in Tschorsnig (1992, 1996, 2002) and Tschorsnig, Andersen & Blasco-Zumeta (1997).

Acronyms of depositories

BMNH	Natural History Museum, London, United Kingdom
CCT	Collection M. Carles-Tolrá, Barcelona, Spain
CGW	Collection G. Van de Weyer, Reet, Belgium
CJZ	Collection J. Ziegler, Berlin, Germany
CPC	Collection P. Chandler, Slough, United Kingdom
CTZ	Collection T. Zeegers, Soest, The Netherlands
INHS	Illinois Natural History Survey, Champaign, USA
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany
ZMHB	Museum für Naturkunde, Humboldt Universität, Berlin, Germany
ZMUC	Zoologisk Museum, Copenhagen, Denmark

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2 Description of *Estheria iberica* n. sp.

Material

Holotype. Spain, Prov. Salamanca, 6–8 km N Villar de Ciervo, 10.V.1983, leg. H.-P. TSCHORSNIG (♂) [SMNS].

Paratypes. The material is stored in SMNS, except a few paratypes which were given to other collections (see below). The majority of the specimens from 1999 and 2001 are preserved in alcohol. All except two specimens (see below) were collected by H.-P. TSCHORSNIG.

Spain – Prov. Avila: Sierra de Gredos, 27.V.1961, leg. E. LINDNER (1 ♀). – Estremadura (without further data), leg. W. HENNIG (1 ♀). – Prov. Granada: 5 km SE Pinos Genil, 22.V.1983 (2 ♂♂, 3 ♀♀); Sierra de Sagra, 3.V.1988 (2 ♂♂). – Prov. Salamanca: La Fregeneda, 29.IV.1988 (1 ♀); Rio Agueda near Castillejo de Martin Viejo, 21.IX.1986 (1 ♂), 11.IV.2001 (3 ♂♂); Rivera de dos Casas, 2–3 km SW Puerto Seguro, 2.VI.1999 (1 ♀); 6–8 km N Villar de Ciervo, 11.V.1980 (1 ♀), 13.V.1980 (1 ♂, 4 ♀♀), 14.V.1980 (2 ♂♂), 10.V.1983 (12 ♂♂, 8 ♀♀), 13.V.1983 (3 ♂♂), 7.VI.1983 (1 ♀), 23.IV.1988 (5 ♂♂, 6 ♀♀) [+ 1 ♀ in CTZ], 24.IV.1988 (3 ♂♂, 1 ♀), 27.IV.1988 (4 ♂♂, 4 ♀♀), 28.IV.1988 (1 ♂♂, 2 ♀♀) [+ 1 ♂ in CJZ], 13.V.1988 (3 ♀♀), 14.V.1988 (1 ♂), 29.V.1989 (1 ♂, 1 ♀), 3.IV.1990 (3 ♂♂), 4.IV.1990 (1 ♀), 7.IV.1990 (6 ♂♂, 1 ♀) [+ 1 ♂ in CTZ], 9.IV.1990 (5 ♂♂), 10.IV.1990 (7 ♂♂), 11.IV.1990 (9 ♂♂) [+ 1 ♂ in BMNH], 12.IV.1990 (5 ♂♂), 14.IV.1990 (4 ♂♂, 2 ♀♀), 16.IV.1990 (14 ♂♂, 5 ♀♀), 26.V.1999 (2 ♀♀), 28.V.1999 (2 ♀♀), 29.V.1999 (1 ♂), 11.IV.2001 (2 ♂♂, 3 ♀♀), 13.IV.2001 (9 ♂♂); Villar de Ciervo, Las Coronas, 23.V.1999 (1 ♀); Villar de Ciervo, La Navizuela, 12.IV.2001 (4 ♂♂, 1 ♀), 13.IV.2001 (4 ♂♂, 1 ♀), 14.IV.2001 (61 ♂♂, 8 ♀♀), 15.IV.2001 (62 ♂♂, 10 ♀♀), 16.IV.2001 (65 ♂♂, 31 ♀♀) [+ 1 ♀ in CJZ], 17.IV.2001 (72 ♂♂, 30 ♀♀), 18.IV.2001 (38 ♂♂, 22 ♀♀) [+ 1 ♀ in BMNH]; Villar de Ciervo, Peña de la Campana, 10.IV.2001 (2 ♂♂), 29.III.2002 (1 ♂); Villar de Ciervo, Puente Quebrada, 30.V.1999 (2 ♀♀), 10.IV.2001 (1 ♂, 1 ♀), 13.IV.2001 (12 ♂♂, 1 ♀♀), 17.IV.2001 (3 ♂♂); Villar de la Yegua, Vado de la Viña, 12.IV.2001 (2 ♂♂); Sierra de Gata, Jálama, 11.VI.1994 (1 ♂).

Portugal – Prov. Guarda: 4 km N Vilar Formoso, near the Spanish border, 11.VI.1983 (1 ♀).

Further material. Non-type material deposited in other collections that has also been studied:

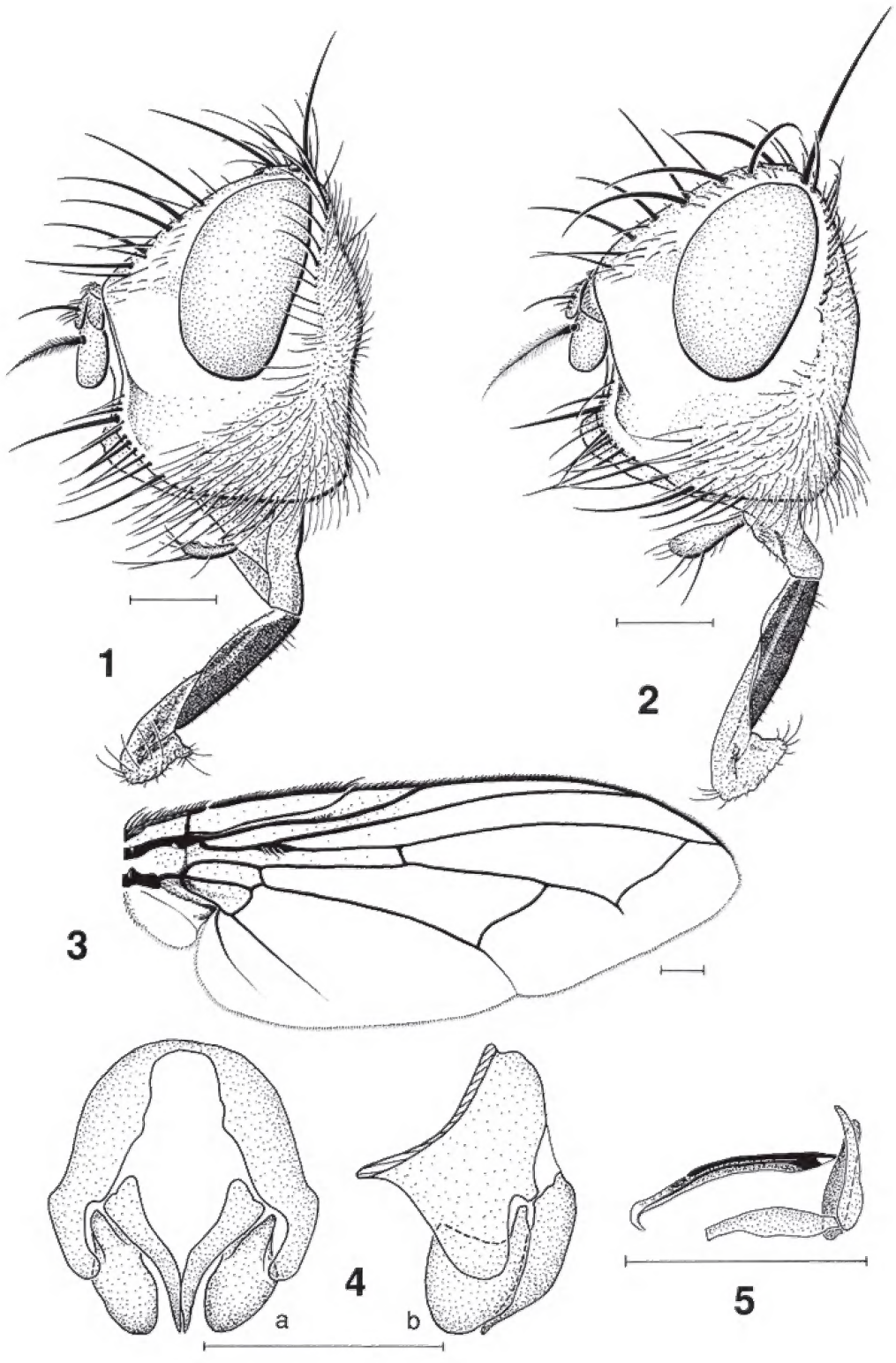
Spain – Prov. Almería: Uleila, 25.III.2001, leg. J. DILS & J. FAES (1 ♂) [CGW]. – Asturias: (without further data), in coll. M. P. RIEDEL, 1 ex. [ZMHB]. – Prov. Burgos: near Navas de Bureba, 19.VI.1980, leg. P. CHANDLER, 1 ex. [CPC]. – Prov. Ciudad Real: Sierra de Sta. Maria, Viso del Marquis, 7.–20.IV.1999, leg. M. E. IRWIN (1 ♂, 1 ♀) [INHS], 20.–30.IV.1999, leg. M. E. IRWIN (1 ♂) [INHS]. – Prov. Guadalajara: Villaseca de Uceda, 21.IV.1998, leg. A. BAZ (1 ♂) [CCT]. – Prov. Madrid: Sierra de los Porrones, Mataelpino, 24.IV.1999, leg. M. E. IRWIN (1 ♂) [INHS], 26.V.2000, leg. K. C. HOLSTON (2 ♂♂, 2 ♀♀) [INHS]. – Prov. Teruel: Cantavieja, 28.VI.1984, leg. V. MICHELSEN, 1 ex. [ZMUC].

Many more specimens of the new species were observed and counted by the author during excursions in the Province of Salamanca, but have not been collected and preserved.

Description

Male (statements given within square brackets refer to male paratypes):

Colour: Body black. Palpus black. Halter brownish. Wing slightly infuscated, veins dark brown at wing base, tegula and basicosta black. Legs black. Head, thorax, and abdomen covered with grey pruinescence with dark reflecting pattern; median



Figs. 1–5. *Estheria iberica* n. sp. – **1**. ♂ head, lateral view. **2**. ♀ head, lateral view. **3**. Right wing. **4**. Epandrium, cerci and surstyli, caudal (a) and lateral (b) views, hairs omitted. **5**. Pregonite, postgonite and aedeagus, lateral view. – Scale: 0.5 mm.

presutural longitudinal stripes on thorax fused to a common dark stripe (in posterior view). Pruinescence of parafacial nearly always with a brown spot (in dorsal view, near the eye at the level of base of antenna).

Head (Fig. 1): Head about as high as long. Eye bare. Frons at its narrowest point 0.32 [0.29–0.39] times as wide as an eye in dorsal view. Inner vertical bristles 0.6 [0.6–0.8] times as long as eye height, parallel or slightly divergent; outer vertical bristles not differentiated from the setae of the postocular row. Postocular setae long, bent forwards. Ocellar bristles strong, proclinate. Frontal bristles descending to base of antenna. Frons with 2–3 irregular rows of hairs outside frontal row. Parafacial bare, 2.5 [2–3] times as wide as third antennal segment. Facial ridge concave in profile, with a few setae on lower $^1/_6$. Vibrissa arising above level of lower facial margin, the latter slightly protruding and visible in lateral view. Face visible in lateral view; carina only weakly developed. Third antennal segment 1.5 [1.4–1.6] times as long as second antennal segment. Arista setose, thickened on its basal $^1/_9$ [$^1/_{10}$–$^1/_8$], with the hairs as wide as 0.6 [0.4–0.8] of third antennal segment. Second aristomere short, at most as long as wide. Gena, when seen in profile, 0.5 [0.4–0.6] of vertical diameter of eye. Genal dilation and back of head predominantly black haired, pale hairs only along posteroventral third of head. Prementum about 5 times as long as its diameter. Palpus well-developed, only slightly enlarged apically, with black hairs.

Thorax: Prosternum and proepisternum bare. Postpronotum with 3 strong bristles arranged in a triangle, and usually 2 inner anterior bristles and 1 parabasal bristle of variable length. Scutum with 2 + 3 [2–3 + 2–3] pairs of acrostichal bristles, 3 + 3 pairs of dorsocentral bristles [rarely a bristle-like seta present between first and second dorsocentral bristle], 0 + 3 intra-alar bristles. Katepisternum with 3 bristles. Katepimeron with 7 [2–10] hairs. Anepimeral bristle of normal length. Scutellum with strong basal, subapical and apical bristles, the latter crossed; surface of scutellum with erect hairs and 1 pair of preapical bristles.

Wing (Fig. 3): Costal bristle 1.0–1.5 times as long as crossvein r-m. Second costal portion bare ventrally. Base of R_{4+5} with 4 [2–4] hairs. R_1 and CuA_1 bare. Fourth costal section 2.2 [1.9–2.7] times as long as sixth costal section. Section of M between crossveins r-m and dm-cu 2.0 [1.6–2.2] times as long as section between dm-cu and bend of M. Bend of M with an extension of variable length. Petiole of wing cell r_{4+5} as long as 0.3 [0.2–0.5] of section of M beyond bend.

Legs: Claws 1.0 [1.0–1.1] times as long as fifth tarsal segment. Inner anterior surface of fore coxa bare. Fore tibia with 2 [2–3] anterodorsal bristles and 2 [occasionally 3] posterior bristles; preapical anterodorsal bristle slightly longer than preapical dorsal bristle. Mid tibia with 2 [2–3] anterodorsal bristles, 2 [2–3] posterodorsal bristles, 1 ventral bristle. Hind tibia with 4 [3–5] anterodorsal bristles, 3 [2–5] posterodorsal bristles, 3 [2–4] anteroventral bristles, and 2 dorsal preapical setae; preapical posteroventral seta short, hair-like. Hind coxa bare on posterodorsal margin.

Abdomen: Middorsal depression on syntergite 1 + 2 confined to anterior 0.8 [0.6–0.9] of that segment. Syntergite 1 + 2 with 1 [0–1] pair of median marginal bristles, 2 [1–2] pairs of lateral marginal bristles and several irregular lateral discal bristles; tergite 3 with 1 [1–2] pair of median marginal bristles, 3 [1–4] pairs of lateral marginal bristles, 1 [1–2] pair of median discal bristles, and 1 [1–2] pair of lateral discal bristles; tergite 4 with a complete row of marginal bristles and 1–2 irregular rows of discal bristles (1 pair of median discal bristles and 1 pair of lateral discal bristles in

the smallest specimens only); tergite 5 with a row of marginal bristles and 1–2 irregular rows of discal bristles. Hairs on abdomen erect or semi-erect.

Postabdomen: (Figs. 4–5): Tergite 6 large, with a few bristles along hind margin, separated from segment 7 + 8 by a narrow membranous suture. Sternite 6 asymmetrical (as in groundplan of Tachinidae), on its right side separated from segment 7 + 8 by a membranous suture. Sternite 5 with the normal deep V-like incision. Surstyli and cerci short (Fig. 4). Processus longi rod-like. Arms of epandrium widely separated. Pregonite plate-like, postgonite narrow. Basal plate of ejaculatory apodeme large, its prolongation short. Aedeagus as in Fig. 5.

Body length 7.4 [4.7–8.2] mm.

Female, differing from male as follows:

Pruinescence more dense as in male. Median presutural dark longitudinal stripes on thorax separated. Frons at its narrowest point 1.10–1.43 times as wide as an eye in dorsal view. Inner vertical bristle about as long as eye height; outer vertical bristle present, as long as 0.4–0.7 of inner vertical bristle (Fig. 2). Postocular setae stout. Two proclinate (or slightly lateroclinate) orbital bristles present; one strong reclinate prevertical bristle. Palpus about 1.5 times as wide as in male. Postpronotum with 3 strong bristles arranged in a triangle, rarely with additional short bristles. Surface of scutellum with adjacent hairs. Claws 0.4–0.6 times as long as fifth tarsal segment. Hairs on abdomen appressed.

Differential diagnosis

The new species *Estheria iberica* is the only species of the genus *Estheria* with the middorsal depression of abdominal syntergite 1+2 not extending back to the hind margin of that segment. It is probably nearly related to *Estheria bohemani* (Rondani, 1862). Both species have a bare parafacial, an entirely black scutellum, and wing cell r_5 petiolated. The following key may be used to distinguish the two species:

1 Head about as high as long (Figs. 1, 2). Arista with its hairs as wide as 0.6–0.8 of third antennal segment. Usually 3 pairs of postsutural dorsocentral bristles (rarely 4 pairs). Middorsal depression on abdominal syntergite 1+2 confined to anterior 0.6–0.9 of that segment. Palpus, basicosta, and tibia black, veins dark brown at wing base. Pruinescence of parafacial nearly always with a brown spot (in dorsal view, near the eye at the level of base of antenna). – ♂: Inner vertical bristles 0.6–0.8 times as long as eye height, parallel or slightly divergent; median presutural longitudinal stripes on thorax fused to a common dark stripe. ..... ***Estheria iberica* n. sp.**

– Head distinctly higher than long. Arista with its hairs as wide as 0.9–1.2 of third antennal segment. 4 pairs of postsutural dorsocentral bristles. Middorsal depression on abdominal syntergite 1+2 extending back to hind margin of that segment. Palpus and basicosta yellow, tibia predominantly yellow, veins yellow at wing base. Pruinescence of parafacial without a brown spot. – ♂: Inner vertical bristles 0.4–0.5 times as long as eye height, crossed; median presutural longitudinal stripes on thorax widely separated. ..... ***Estheria bohemani***

Distribution

Estheria iberica n. sp. is known from many regions of the Iberian Peninsula. The areas of the new species and the more northern species *Estheria bohemani* do not overlap, because the most northern record of *E. iberica* is "Asturias". Only a single specimen of *E. bohemani* is known from the Iberian Peninsula (Pyrenees, Prov. Lérida, Sort; in CTZ, confirmed by the author).

Ecology

The new species *E. iberica* flies in a single generation mainly from the end of March until the beginning of June, most commonly between mid April and mid May. Individual specimens can be found at high altitudes until the end of June. A single specimen was caught in mid September, but it is not yet clear if this was an extraordinary catch or if this is evidence of a second generation in autumn.

Estheria iberica n. sp. often visits flowers for food, preferably those of yellow colour. Usually the flowers are Euphorbiaceae (*Euphorbia broteri*, *E. segetalis*, *E.* sp.), but also Daucaceae (*Thapsia villosa* and others) and various Asteraceae are visited. *Estheria iberica* n. sp. can be swept as well from low vegetation including bushes, and it is easily collected in yellow pan traps (see TSCHORSNIG 2002). The flies can also sometimes be found when they are resting on stones or on the ground. Only few specimens have been collected in Malaise traps or similar trap constructions.

The swarming of males around bushes of broom (in small aggregations of about 5–15 individuals) was only observed in a year when the population density of the species was exceptionally high (see TSCHORSNIG 1992).

The ecological preferences of *E. iberica* n. sp. are not completely clear, but the majority of specimens have been collected in a habitat with broom (*Cytisus multiflorus*). The tachinid can be found in mountains up to 1500 m altitude (a single specimen caught on a hilltop).

Host are unknown, but are most likely to be larvae of Scarabaeidae (Coleoptera), because all currently known hosts of *Estheria* belong to this family.

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